

REMARKS

Upon entry of the foregoing amendment, claims 1-43 are pending in the application. Claims 38-41 have been withdrawn from consideration.

Claim Rejections – 35 U.S.C. §112

Claims 34-36 have been rejected under 35 U.S.C. §112, second paragraph. The Examiner has stated that there is insufficient antecedent basis for the limitation “amine”, “alcohol” and “carboxylic acid” in claims 34-36 and that it appears that claims 34-36 should depend from claim 32.

Applicant respectfully disagrees. Claims 34, 35 and 36 depend from claim 33, which in turn depends from claim 32. This means that all of the limitations of claim 32 are included in claims 34-36. Therefore, there is proper antecedent basis for the terms “amine”, “alcohol” and “carboxylic acid” in claims 34-36. Applicant respectfully requests withdrawal of the rejection of claims 34-36 under 35 U.S.C. §112, second paragraph.

Claim Rejections – 35 U.S.C. §103(a)

Claims 1-7, 12-13, 17-23 and 43 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Handbook of Adhesives and Sealants by Petrie, E.M. The Examiner has stated that Arnold discloses a decal formed by an assembly of laminations, and has equated the vinyl film of Arnold as the facestock of claim 1, the printed ink layer as the print layer of claim 11, the protective film as the transparent protective layer of claim 12, and the protective sheet of Kraft glassine coated with polysiloxane polymer as the protective layer of claim 13. The Examiner has stated that although Arnold is silent with respect to teaching a two-part high solids curable adhesive, “one would have to look elsewhere for a suitable adhesive.” The Examiner has looked to the Handbook of Adhesives and Sealants by Petrie for the teaching of a suitable adhesive. The Examiner contends that a skilled artisan would have found it obvious to use the epoxy adhesive of Petrie with curing agents,

tackifiers, plasticizers, the claimed viscosity and the claimed coat weight in the decal of Arnold motivated by the desire to provide strongly adherent decals using the epoxy resins that offer a high degree of adhesion and good wetting characteristics as taught by Petrie.

Applicant respectfully disagrees with the Examiner's contention. To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or references when combined, must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. (M.P.E. P. 706.02(j).)

Neither Arnold nor Petrie, alone or in combination, teach or suggest a label comprising a two-part, high solids curable adhesive. Arnold is directed to a dry transfer decal and a method of making a decal with a protective coating using printing techniques and without having to die cut the decal. (Col. 2, lines 25-29.) The decal of Arnold includes a high tack pressure sensitive adhesive, typically those based on synthetic rubber, acrylics, polyvinyl ethers, and natural rubber. All of the adhesives used in Arnold are emulsion or solvent based. (Col. 6, lines 49-56.) The pressure sensitive adhesive of Arnold is protected for handling by a release liner made of Kraft glassine coated with polysiloxane polymer release coating. (Col. 7, lines 40-43.) The Handbook of Adhesives and Sealants by

Petrie teaches that epoxy adhesives are well known structural adhesives (pg. 355.) Depending on the epoxy resin and curing agent used, room temperature curing adhesive formulations can harden in as little as several minutes at room temperature. Once the curing agent is added to the epoxy resin the adhesive must be used in a time period that is dependent on the type of resin and curing agent and on ambient conditions. With most room temperature systems, the time period is short (pg. 356). There is no teaching or suggestion in either Arnold or Petrie to use the epoxy adhesive of Petrie in the decal construction of Arnold. Furthermore, the epoxy adhesive of Petrie would not work in the decal of Arnold. After the high tack pressure sensitive adhesive (layer 30 in Arnold) is printed onto the ink layers (26) or clear film (28) as the case may be, protector sheet (32) is applied. The protector sheet (32) is described in Arnold as being releasable from the adhesive (30) so that the decal can be applied to a surface (34). (Col. 4, lines 50-61, FIG. 2.) If instead of a pressure sensitive adhesive, a two-part curable epoxy adhesive were used in Arnold as adhesive layer (30) printed onto the ink layers (26) and then overlaid with the protective sheet (32), the decal would not be able to be applied to surface (34). This is because the epoxy adhesive would harden (cure) and the protective sheet (32) would no longer be releasable from the adhesive layer (30). Once the epoxy adhesive cures, it is no longer tacky. Arnold specifically requires a high tack adhesive for the decal. Thus, not only is there no teaching or suggestion for combining the references, there is no reasonable expectation of success.

With regard to claims 21-23, the two-part curable adhesive is not directed to an epoxy containing adhesive, rather the claimed two-part adhesive comprises a cyclic anhydride and a primary amine. Neither Arnold nor Petrie disclose, teach or suggest a label comprising a polymer facestock and a two-part adhesive comprising a cyclic anhydride and a primary amine. Applicant respectfully requests withdrawal of the rejection of claims 1-7, 12-13, 17-23 and 43 under 35 U.S.C. §103(a).

Claims 8 and 37 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Handbook of Adhesives and Sealants by Petrie, E.M. and further in view of Istvan et al. , Pressure Sensitive Adhesive Technology, Marcel Dekker Inc., 1997, Page 268-269. The Examiner contends that although both Arnold and Petrie are silent with respect to teaching polypropylene and polyethylene as the polymer facestock, a skilled artisan would have found it obvious to use the oriented polypropylene or PET film of Istvan et al. coated with the epoxy adhesive containing amine curing agent of Petrie in the decal of Arnold as the facestock, "motivated by the desire to use the know facestock materials as taught by Istvan et al."

Applicant respectfully disagrees with the Examiner contention. As stated above with regard to claims 1-7, 12-13, 17-23 and 43, not only is there no teaching or suggestion for combining the Arnold and Petrie references, there is no reasonable expectation of success since the two-part curable adhesive of Petrie would not work in the high tack adhesive containing decal of Arnold. Pressure Sensitive Adhesive Technology by Istvan et al. does not cure the deficiencies of Arnold and Petrie. Istvan et al. disclose films used as face stock substrates for pressure sensitive labels and does not disclose, teach or suggest the use of a two-part epoxy adhesive in a label construction. Applicant respectfully requests withdrawal of the rejection of claims 8 and 37 under 35 U.S.C. §103(a).

Claim 22 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Handbook of Adhesives and Sealants by Petrie, E.M. and further in view of Ogata et al. (US 3,909,480). The Examiner contends that although both Arnold and Petrie are silent with respect to the claimed cyclic anhydride, a skilled artisan would have found it obvious to use the epoxy resin of Petrie with the anhydride curing agent of Ogata et al. as an adhesive in the decal of Arnold, "motivated by the desire to provide a strongly adherent decal".

Applicant respectfully disagrees with the Examiner's contention. With regard to claims 21-23, the two-part curable adhesive is not directed to an epoxy containing adhesive, rather the claimed two-part adhesive comprises a cyclic anhydride and a primary amine. Neither Arnold nor Petrie disclose, teach or suggest a label comprising a polymer facestock and a two-part adhesive comprising a cyclic anhydride and a primary amine. Ogata et al. does not cure the deficiencies of Arnold and Petrie. Ogata et al. disclose an epoxy resin composition having latent curability, that is, having good storage stability without gelling at room temperature and rapidly curing on heating (Col. 1, lines 49-53.) The epoxy resin of Ogata et al. consists essentially of 100 parts epoxy resin, 0.01 to 30 parts of at least one organoboron compound and 0.1 to 200 parts of a curing agent. Ogata et al. does not disclose, teach or suggest the use of a two-part epoxy adhesive comprising a cyclic anhydride and a primary amine in a label construction. Applicant respectfully requests withdrawal of the rejection of claim 22 under 35 U.S.C. §103(a).

Claims 9, 10, 14 and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Handbook of Adhesives and Sealants by Petrie, E.M. and further in view of Kittel et al. (US 6,228,486 B1). The Examiner contends that although both Arnold and Petrie are silent with respect to teaching a corona treatment as claimed in claim 9, a barrier or tie coating layer as claimed in claim 10, an abrasion resistant layer as claimed in claim 14, and an adhesion promoting layer as claimed in claim 15, a skilled artisan would have found it obvious to overlay the abrasion resistant transparent coating of Kittel et al. on the printed ink layers of Arnold motivated by the desire to protect the printed ink layers from abrasion; that a skilled artisan would have found it obvious to incorporate the adhesion promoting layer of Kittel et al. between the facestock and printed ink layers of Arnold motivated by the desire to improve the adhesion between the printed ink layers and the facestock of Arnold; that a skilled artisan would have found it obvious to treat the facestock 14 of

Arnold with a corona treatment of Kittel et al. in order for enhanced printing of ink layers 15 on the facestock of Arnold as taught by Kittel et al.; and that a skilled artisan would have found it obvious to use a tie layer of Kittel et al. and place it between the facestock 14 and the adhesive 16 of Arnold motivated by the desire to enhance the bonding between the facestock and the adhesive layer.

Applicant respectfully disagrees with the Examiner's contentions. As stated above with regard to claims 1-7, 12-13, 17-23 and 43, not only is there no teaching or suggestion for combining the Arnold and Petrie references, there is no reasonable expectation of success since the two-part curable adhesive of Petrie would not work in the high tack adhesive containing decal of Arnold. Kittel et al. does not cure the deficiencies of Arnold and Petrie. Kittel et al. is directed to a thermal transfer laminate wherein heat and pressure are used to a laminate having a heat-activatable adhesive layer to a substrate. Kittel et al. does not disclose, teach or suggest the use of a two-part epoxy adhesive in a label construction. Applicant respectfully requests withdrawal of the rejection of claims 9, 10, 14 and 15 under 35 U.S.C. §103(a).

Claim 16 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Handbook of Adhesives and Sealants by Petrie, E.M. and further in view of Gager et al. (US 5,215,814). The Examiner contends that although both Arnold and Petrie are silent with respect to teaching a layer of ink receptive composition, a skilled artisan would have found it obvious to incorporate the ink receptive layer of Gager et al. between facestock 14 and ink layers 15 in the invention of Arnold, motivated by the desire to print the facestock using any conventional printing inks and without the need for using any special drying equipment to dry the inks as taught by Gager et al.

Applicant respectfully disagrees with the Examiner's contention. As stated above with regard to claims 1-7, 12-13, 17-23 and 43, not only is there no teaching or suggestion for combining the Arnold and Petrie references, there is no reasonable expectation of success since the two-part curable adhesive of

Petrie would not work in the high tack adhesive containing decal of Arnold. Gager et al. does not cure the deficiencies of Arnold and Petrie. Gager et al. is directed to a fast drying printing film composite for use in offset lithography and does not disclose, teach or suggest the use of a two-part epoxy adhesive in a label construction. Applicant respectfully requests withdrawal of the rejection of claim 16 under 35 U.S.C. §103(a).

Claims 24-27 and 42 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Handbook of Adhesives and Sealants by Petrie, E.M. and further in view of Sakamoto et al. (US 4,829,134). The Examiner contends that although both Arnold and Petrie are silent with respect to teaching oxazoline as claimed in claims 24, 25 and 42, and anhydride as claimed in claim 26, a skilled artisan would have found it obvious to use oxazoline compound of Sakamoto et al. with anhydride curing agent in the epoxy adhesive of Petrie and applied it to the facestock of Arnold, motivated by the desire to have an adhesive that is excellent in mechanical strength as taught by Sakamoto et al.

Applicant respectfully disagrees with the Examiner's contention. With regard to claims 24-27 and 42, the two-part curable adhesive is not directed to an epoxy containing adhesive, rather the claimed two-part adhesive comprises an oxazoline and a primary amine, carboxylic acid or anhydride or a mixture of two or more thereof. Neither Arnold nor Petrie disclose, teach or suggest a label comprising a polymer facestock and a two-part adhesive comprising an oxazoline and a primary amine, carboxylic acid or anhydride. Sakamoto et al. does not cure the deficiencies of Arnold and Petrie. Sakamoto et al. is directed to an epoxy resin composition comprising an oxazoline compound mixed with an epoxy resin and optionally a curing agent and does not disclose, teach or suggest the use of a two-part adhesive in a label construction. Applicant respectfully requests withdrawal of the rejection of claims 24-27 and 42 under 35 U.S.C. §103(a).

Claims 28-31 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Handbook of Adhesives and Sealants by Petrie, E.M. and further in view of Corley (US 5,169,910). The Examiner contends that although Arnold and Petrie are both silent with respect to teaching carbodiimide and carboxylic acid as claimed, a skilled artisan would have found it obvious to use the epoxy composition of Corley containing isocyanate modified with carbodiimide linkage in the invention of Arnold as an adhesive that is stable at room temperature but would cure rapidly at desired curing conditions as taught by Corley.

Applicant respectfully disagrees with the Examiner's contention. With regard to claims 28-31, the two-part curable adhesive is not directed to an epoxy containing adhesive, rather the claimed two-part adhesive comprises a carbodiimide and a primary amine or carboxylic acid or a mixture of two or more thereof. Neither Arnold nor Petrie disclose, teach or suggest a label comprising a polymer facestock and a two-part adhesive comprising a carbodiimide and a primary amine or carboxylic acid. Corley does not cure the deficiencies of Arnold and Petrie. Corley is directed to an epoxy resin that is stable at room temperature for extended periods but can be cured rapidly under subsequently imposed curing conditions, i.e., high temperatures. (Col. 2, lines 6-11.) Corley does not disclose, teach or suggest the use of a two-part adhesive in a label construction. Applicant respectfully requests withdrawal of the rejection of claims 28-31 under 35 U.S.C. §103(a).

Claims 1 and 32-36 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold (US 4,517,044) in view of Farah et al. (US 3,872,049). The Examiner contends that although Arnold is silent with respect to teaching two parts curable adhesive as claimed in claim 1, isocyanate as claimed in claims 32 and 33, primary amine as claimed in claims 32 and 34, alcohol as claimed in claim 32 and 35, and carboxylic acid as claimed in claim 32 and 36, a

skilled artisan would have found it obvious to use the urea-urethane coating of Farah et al. in the invention of Arnold as an adhesive, motivated by the desire to use an adhesive that has excellent abrasion resistance and durability as taught by Farah et al.

Applicant respectfully disagrees with the Examiner's contention. Arnold is directed to a dry transfer decal and a method of making a decal with a protective coating using printing techniques and without having to die cut the decal. (Col. 2, lines 25-29.) The decal of Arnold includes a high tack pressure sensitive adhesive, typically those based on synthetic rubber, acrylics, polyvinyl ethers, and natural rubber. All of the adhesives used in Arnold are emulsion or solvent based. (Col. 6, lines 49-56.) Farah et al. is directed to a method of making finely-divided, solid urea-urethane particles. The particles are useful in powder coatings or film-forming material. (Col. 2, lines 1-7.) The urea-urethane particles are powder coated by electrostatic spraying, roll coating, flock coating, fluidized bed coating, flame spraying, and electrostatic cloud chamber. (Col. 12, lines 8-31.) The urea-urethane particles are prepared by reacting an isocyanate-terminated prepolymer with diamine under agitation and in an inert liquid. The urea-urethane particles of Farah et al. are not a two-part curable adhesive comprising isocyanate and a curing agent. If the particles of Farah et al. were somehow powder coated onto the decal of Arnold in place of the high tack pressure sensitive adhesive of Arnold, the result would not be an adhesive label. Thus, even if there were some motivation or suggestion in either Arnold or Farah et al. to use the finely-divided urea-urethane particles of Farah et al. in the decal construction of Arnold, the resulting product would not work, nor would it be the label construction as claimed by Applicant. Applicant respectfully requests withdrawal of the rejection of claims 1 and 32-36 under 35 U.S.C. §103(a).

Conclusion

In view of the foregoing remarks, Applicant respectfully requests a timely issuance of a notice of allowance.

Respectfully submitted,

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